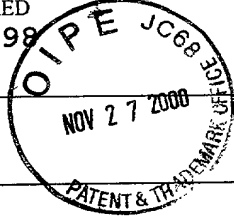


U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER GEIFMAN 1
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/701237
		PRIORITY CLAIMED 27 May 1998
INTERNATIONAL APPLICATION NO. PCT/IL99/00273	INTERNATIONAL FILING DATE 24 May 1999	
TITLE OF INVENTION A CLEAR TOMATO CONCENTRATE AS A TASTE ENHANCER		
APPLICANT(S) FOR DO/EO/US Arturo GEIFMAN et al.		
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). <input type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (PCT Article 31). <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <input type="checkbox"/> is attached hereto (required only if not transmitted by the International Bureau). <input checked="" type="checkbox"/> has been communicated by the International Bureau. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). <input type="checkbox"/> have been communicated by the International Bureau. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. <input checked="" type="checkbox"/> have not been made and will not be made. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). <p>Items 11. to 16. below concern document(s) or information included:</p> <ol style="list-style-type: none"> <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. <input type="checkbox"/> An Assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input checked="" type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. <input type="checkbox"/> A substitute specification. <input type="checkbox"/> A change of power of attorney and/or address letter. <input type="checkbox"/> Other items or information: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Courtesy copy of the International Application as filed. <input checked="" type="checkbox"/> Courtesy copy of the first page of the International Publication (WO 99/60868). <input checked="" type="checkbox"/> Courtesy Copy of the International Search Report. 		

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	International Application No. PCT/IL99/00273	Attorney's Docket No. GEIFMAN 1
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09/701237

17. [xx] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a)(1)-(5):
 Neither international preliminary examination fee (37 CFR 1.482)
 nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO
 and International Search Report not prepared by the EPO or JPO.....\$1000.00

International preliminary examination fee (37 CFR 1.482) not paid to
 USPTO but International Search Report prepared by the EPO or JPO.....\$860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but
 international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$710.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)
 but all claims did not satisfy provisions of PCT Article 33(1)-(4).....\$690.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)
 and all claims satisfied provisions of PCT Article 33(1)-(4).....\$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

Surcharge of \$130.00 for furnishing the oath or declaration later than [] 20 [] 30
 months from the earliest claimed priority date (37 CFR 1.492(e)).

Claims as Originally Presented	Number Filed	Number Extra	Rate
Total Claims	25 - 20	5	X \$18.00
Independent Claims	3 - 3	0	X \$80.00
Multiple Dependent Claims (if applicable)			+\$270.00

TOTAL OF ABOVE CALCULATIONS =

Claims After Post Filing Prel. Amend	Number Filed	Number Extra	Rate
Total Claims	25 - 25	0	X \$18.00
Independent Claims	2 - 3	0	X \$78.00

TOTAL OF ABOVE CALCULATIONS =

Reduction of 1/2 for filing by small entity, if applicable. Applicant claims small entity
 status. See 37 CFR 1.27.

SUBTOTAL =

Processing fee of \$130.00 for furnishing the English translation later than [] 20 [] 30
 months from the earliest claimed priority date (37 CFR 1.492(f)).

TOTAL NATIONAL FEE =

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be
 accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

TOTAL FEES ENCLOSED =

CALCULATIONS PTO USE ONLY

\$ 860.00	
\$	
\$ 90.00	
\$ 0	
\$	
\$ 950.00	
\$	
\$ 950.00	
\$	
\$ 950.00	
\$	
\$ 950.00	
\$	
\$ 950.00	
\$	
\$ 950.00	
Amount to be:	\$
refunded	
charged	\$

a. [] A check in the amount of \$ _____ to cover the above fees is enclosed.

b. [X] Credit Card Payment Form (PTO-2038), authorizing payment in the amount of \$ 950.00, is attached.

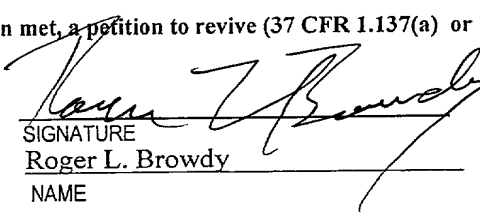
c. [] Please charge my Deposit Account No. 02-4035 in the amount of \$ _____ to cover the above fees.
 A duplicate copy of this sheet is enclosed.

d. [XX] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment
 to Deposit Account No. 02-4035. A duplicate copy of this sheet is enclosed.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or
 (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, N.W., SUITE 300
WASHINGTON, D.C. 20001
TEL: (202) 628-5197
FAX: (202) 737-3528
Date of this submission: November 27, 2000


 SIGNATURE
 Roger L. Browdy
 NAME
 25,618
 REGISTRATION NUMBER

JC01 Rec'd PCT/PTO 27 NOV 2000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Art Unit:
Arturo GEIFMAN et al.)	
)	
)	
)	
IA No.: PCT/IL99/00273)	
)	Washington, D.C.
IA Filed: 24 May 1998)	
)	
U.S. App. No.:)	
(Not Yet Assigned))	
)	November 27, 2000
National Filing Date:)	
(Not Yet Received))	
)	
For: A CLEAR TOMATO...)	Docket No.: GEIFMAN 1

PRELIMINARY AMENDMENT

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Contemporaneous with the filing of this case and
prior to calculation of the filing fee, kindly amend as
follows:

IN THE SPECIFICATION

After the title please insert the following
paragraph:

The present application is the national stage under
35 U.S.C. 371 of PCT/IL99/00273, filed 24 May 1999. --

IN THE CLAIMS

Claim 3, line 1, delete "any of Claims 1 or 2", and insert therefor --claim 1--.

Claim 4, line 1, delete "any of Claims 1 or 2", and insert therefor --claim 1--.

Claim 5, line 1, delete "any of Claims 1 to 4", and insert therefor --claim 1--.

Claim 8, line 1, delete "any of Claims 1 to 7", and insert therefor --claim 1--.

Delete claims 11-16.

Claim 23, line 1, delete "any of Claims 17 to 22", and insert therefor --claim 17--.

Claim 26, line 1, delete "any of Claims 17 to 25", and insert therefor --claim 17--.

Claim 27, line 1, delete "any of Claims 17 to 25", and insert therefor --claim 17--.

Claim 28, line 1, delete "any of Claims 17 to 25", and insert therefor --claim 17--.

Claim 29, line 1, delete "any of Claims 17 to 28", and insert therefor --claim 17--.

Claim 30, line 1, delete "any of Claims 17 to 29", and insert therefor --claim 17--.

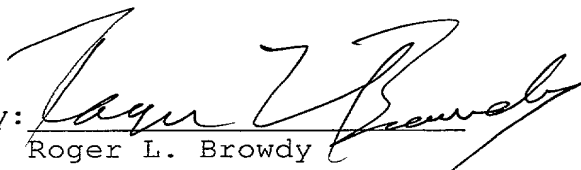
Claim 31, line 1, delete "any of Claims 17 to 29",
and insert therefor --claim 17--.

REMARKS

Claims 1-10 and 17-31 presently appear in this case. The above amendment to the specification is being made to insert reference to the PCT application of which the present case is a U.S. national stage. The above amendments to the claims are being made in order to eliminate any properly multiply dependent claims and to delete claims, for the purpose of reducing the filing fee. Please enter this amendment prior to calculation of the filing fee in this case.

Favorable consideration is earnestly solicited.

Respectfully submitted,
BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By: 
Roger L. Browdy
Registration No. 25,618

RLB:wrđ
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528

JC01 Rec'd PCT/PTO 27 NOV 2000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Art Unit:
Arturo GEIFMAN et al.)	
)	
IA No.: PCT/IL99/00273)	
)	Washington, D.C.
IA Filed: 24 May 1998)	
)	
U.S. App. No.:)	
(Not Yet Assigned))	
)	November 27, 2000
National Filing Date:)	
(Not Yet Received))	
)	
For: A CLEAR TOMATO...)	Docket No.: GEIFMAN 1

SECOND PRELIMINARY AMENDMENT

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Prior to examination upon the merits, kindly
amend as follows:

In The Claims

Delete claims 1-10 and 17-31 without prejudice and
substitute therefore new claims 32-56 as follows.

--32. A method of enhancing the flavor of foods
comprising adding a clear tomato concentrate to the food in
sufficient quantity to enhance the flavor of the food.--

--33. A method of enhancing the flavor of foods
comprising adding a clear tomato concentrate in combination
with another suitable flavor enhancer or mixtures thereof in
sufficient quantity to enhance the flavor of the food.--

--34. A method of enhancing the flavor of foods in
accordance with claim 33, wherein the additional flavor
enhancer is selected from monosodium glutamate (MSG),
hydrolyzed vegetable proteins, disodium salts of the 5'-
nucleotides inosine monophosphate (IMP), guanosine

monophosphate (GMP) and adenosine monophosphate (AMP) and autolysed yeasts.--

--35. A method in accordance with claim 32, wherein the taste enhancer contains 0.5% to 20% free amino acids.--

--36. A method in accordance with claim 35, wherein the taste enhancer contains 4% to 15% free amino acids.--

--37. A method in accordance with claim 35, wherein the taste enhancer contains 8% to 10% free amino acids.--

--38. A method in accordance with claim 32, wherein the clear tomato concentrate is hydrolyzed.--

--39. A method in accordance with claim 38, wherein the serum is hydrolyzed and then concentrated.--

--40. A method in accordance with claim 38, wherein the serum is concentrated and then hydrolyzed.--

--41. A method in accordance with claim 32, wherein the hydrolysis is carried out using the natural acid present in the concentrate serum and heat.--

--42. A method in accordance with claim 32, wherein the hydrolysis is carried out via protolytic enzymes.--

--43. A method in accordance with claim 32, wherein the clear tomato concentrate is in the form of a powder.--

--44. A method in accordance with claim 32, wherein the clear tomato concentrate is spray dried on a suitable carrier.--

--45. A method in accordance with claim 32, wherein the carrier is selected from the group consisting of maltodextrins, starch, starch derivatives, sugars, corn syrup solids, gums, salts and mixtures thereof.--

--46. A method in accordance with claim 32, wherein the clear tomato concentrate is obtained by separating the serum from tomato juice and concentrating it.--

--47. A method in accordance with claim 46, wherein the serum is concentrated to Bx values of 8 to 80.--

--48. A method in accordance with claim 48, wherein the serum is concentrated to Bx values of 8 to 60.--

--49. A method in accordance with claim 33, wherein

the clear tomato concentrate is hydrolyzed.--

--50. A method in accordance with claim 49, wherein the serum is hydrolyzed and then concentrated.--

--51. A method in accordance with claim 49, wherein the serum is concentrated and then hydrolyzed.--

--52. A method in accordance with claim 33, wherein the hydrolysis is carried out using the natural acid present in the concentrate serum and heat.--

--53. A method in accordance with claim 33, wherein the hydrolysis is carried out via protolytic enzymes.--

--54. A method in accordance with claim 33, wherein the clear tomato concentrate is in the form of a powder.--

--55. A method in accordance with claim 32, wherein the clear tomato concentrate is spray dried on a suitable carrier.--

--56. A method in accordance with claim 33, wherein the carrier is selected from the group consisting of maltodextrins, starch, starch derivatives, sugars, corn syrup solids, gums, salts and mixtures thereof.--

REMARKS

Claims 32-56 presently appear in this case. The above amendments to the claims are being made in order to put this case in better condition for examination.

Respectfully submitted,
BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By: 

Roger L. Browdy

Registration No. 25,618

RLB:wrd

Telephone No.: (202) 628-5197

Facsimile No.: (202) 737-3528

FIELD OF THE INVENTION

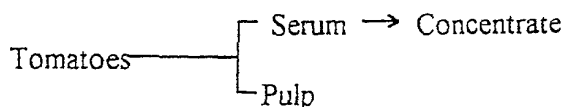
The present invention relates to a novel taste enhancer. The present invention more particularly relates to a natural taste enhancer having taste enhancing properties as good as if not better than commercially available taste enhancers without the problems associated with the popular taste enhancers, in use by the food industry.

BACKGROUND OF THE INVENTION

The food industry uses flavor enhancers in a variety of savory products. These enhancers consist of monosodium glutamate (hereinafter MSG), hydrolyzed vegetable proteins, disodium salts of the 5'-nucleotides inosine monophosphate (IMP), guanosine monophosphate (GMP) and adenosine monophosphate (AMP), as well as autolysed yeasts. While all have disadvantages, the major enhancer, MSG, suffers from the problem known as Chinese Restaurant Syndrome.

The literature on taste enhancers is very large. A sample reference cited to show the various taste enhancers known is: S. Fuke and Y. Ueda, "Interactions between umami and other flavor characteristics", in Trends in Food Science & Technology, Special Issue on Flavor Perception, December, 1996 (Vol. 7), Elsevier Sciences Ltd.

In the processing of tomatoes described in IL 107,999 we have obtained two fractions: serum and pulp where the serum is further concentrated:



After removing from the tomato juice the pulp, the serum is concentrated to a value that is higher than 4.5 ° Bx which is the normal value of crushed tomatoes to reach a Bx value of 80 Bx. It can then be hydrolyzed (or hydrolyzed and then concentrated). This product is commonly referred to as Clear Tomato Concentrate (CTC) -although it is clear only when it is in the 4.5 ° Bx region while at higher Bx values it becomes opaque.

OBJECTIVE OF THE INVENTION

The objective of the present invention is to afford a novel taste enhancer the Clear Tomato Concentrate which lacks the dominant tomato flavor to enable it to be used in a variety of savory food and beverage products and not only those based on tomatoes. It is a further objective of the present invention to afford a taste enhancer with little of no chance of causing Chinese Restaurant Syndrome.

STATEMENT OF THE INVENTION

A taste enhancer comprising clear tomato concentrate, and a method of enhancing the flavor of foods comprising adding a clear tomato concentrate to the food in an amount sufficient to enhance the flavor.

DETAILED DESCRIPTION OF THE INVENTION

Tomato Serum Concentrate contains 8-10% soluble proteins and free amino acids. By hydrolyzing the proteins, one can increase the concentration of free amino acids, and in this way intensify the flavor enhancing properties of the concentrate where the hydrolysis occurs due to the presence of natural tomato acids. The rate of hydrolysis increases by heating, and depends on the time and temperature. The results of acid hydrolysis of the Tomato Serum Concentrate are shown in Table 1.

The tomato proteins (in the concentrate or in the serum prior to concentration) can also be hydrolyzed by enzymes at relatively low temperatures

For this we have used fungal, protease/peptidase enzyme formulation developed by Novo Nordisk, and sold under the name of "flavourzyme". Almost complete protein hydrolysis was obtained after one-hour enzyme treatment at 50 °. The enzyme was subsequently inactivated by heating at 80 ° for a short period. The results of enzymatic hydrolysis of the Tomato Serum Concentrate are shown in Table 2

Hydrolysis before or after concentration of the Tomato Serum yields essentially the same results-namely an excellent food flavor enhancer.

A further embodiment of the invention is to use the flavor enhancer in powder form. Thus the Clear Tomato Concentrate, after the steps of hydrolysis and concentration, is either sprayed dried or dried using any other conventional dehydration techniques used by the food industry. The Clear Tomato Concentrate can be dried on a variety of materials such as maltodextrins, starches, sugars, carbohydrates, their derivatives or salts used as carriers to facilitate drying.

EXAMPLE 1 : Clear Tomato Concentrate In Powder Form

Clear Tomato Concentrate and maltodextrine 19 DE (dextrose equivalent) were diluted with water to the appropriate viscosity and sprayed dried to a free flowing powder containing 3 - 5 % moisture.

EXAMPLE 2 : Flavor Enhancing Properties Of Clear Tomato Concentrate

The food and flavor enhancing properties of the hydrolyzed and concentrated (in either order) Clear Tomato Concentrate are demonstrated in taste trials in which three different types of products (namely hamburger, Paolla rice, and vegetable soup) were prepared in three versions:

1. Control (with no flavor enhancers).
2. Product plus pure MSG (0.3% in the final product).
3. Product plus Clear Tomato Concentrate, 60° Bx (0.5% in end Product).

Fifteen tasters were asked to answer two questions for each product:

1. Which of the three samples is substantially different?
2. Which one of the remaining products do you prefer?

The results of the first question was as follows:

Hamburger: All 15 participants recognized the control as different and inferior.

Paolla Rice: All 15 participants recognized the control as different and inferior.

Vegetable Soup: All 15 participants recognized the control as different and inferior.

The results for the second question were as follows:

Hamburger: Three participants preferred the hamburger with MSG; 9 preferred the hamburger with the Clear Tomato Concentrate; and 3 had no preference.

Paolla Rice: One participant preferred the sample with MSG; 12 participants preferred the sample with Clear Tomato Concentrate; and 2 had no preference.

Vegetable Soup: Six participants preferred the soup with MSG; 5 participants preferred the sample with Clear Tomato Concentrate and 4 had no preference.

From this taste panel we see that the Clear Tomato Concentrate containing a total of 4-5% glutamic acid and glutamine is equal to or better than pure MSG with no problem of the Chinese Restaurant Syndrome. It is believed that this superior enhancing property is due to synergism between the glutamic acid and glutamine on the one hand and the various other amino acids present in the clear Tomato Concentrate on the other hand.

TABLE 1

CONCENTRATION OF FREE AMINO ACIDS IN TOMATO

SERUM (60° Bx) AFTER ACID HYDROLYSIS

<u>Compound</u>	<u>CONC. mg/kg</u>
Aspartic acid	11904.12
Threonine	1117.25
Serine	1279.80
Asparagine	5684.74
Glutamic acid	25501.90
Glutamine	12942.68
Proline	276.54
Glycine	280.20
Alanine	4574.41
Valine	440.16
Methionine	152.93
Isoleucine	531.46
Leucine	623.99
Tyrosine	419.01
Phenylalanine	1567.32
Gamma aminobutyric	9908.32
Ethanolamine	148.30
Tryptophane	16.56
Lysine	1010.62
Histidine	1035.93
Arginine	<u>905.63</u>
Total	80321.87

TABLE 2

CONCENTRATION OF FREE AMINO ACIDS IN TOMATO

SERUM (60° Bx) AFTER ENZYMATIC HYDROLYSIS

<u>Compound</u>	<u>CONC. mg/kg</u>
Aspartic acid	12393.07
Threonine	1186.59
Serine	1370.29
Asparagine	4565.77
Glutamic acid	25547.74
Glutamine	11454.92
Proline	280.31
Glycine	332.54
Alanine	4570.03
Valine	488.21
Methionine	156.60
Isoleucine	522.86
Leucine	612.15
Tyrosine	435.35
Phenylalanine	1598.48
Gamma aminobutyric	10271.85
Ethanolamine	167.84
Tryptophane	26.97
Lysine	1058.58
Histidine	1051.20
Arginine	<u>925.63</u>
Total	79016.99

CLAIMS

1. A clear tomato concentrate for use as a taste enhancer.
2. A clear tomato concentrate in accordance with Claim 1 wherein the clear tomato concentrate is obtained by separating the serum from tomato juice and concentrating it.
3. A clear tomato concentrate in accordance with any of Claims 1 or 2, wherein the serum is concentrated to Bx values of 8 to 80.
4. A clear tomato concentrate in accordance with any of Claims 1 or 2, wherein the serum is concentrated to Bx values of 8 to 60.
5. A clear tomato concentrate in accordance with any of Claims 1 to 4, containing 0.5% to 20% free amino acids.
6. A clear tomato concentrate in accordance with Claim 5 containing 4% to 15% free amino acids.
7. A clear tomato concentrate in accordance with Claim 5 containing 8% to 10% free amino acids.
8. A clear tomato concentrate in accordance with any of Claims 1 to 7 wherein the clear tomato concentrate is hydrolyzed.
9. A clear tomato concentrate in accordance with Claim 8 wherein the serum is hydrolyzed and then concentrated.
10. A clear tomato concentrate in accordance with Claim 8 wherein the serum is concentrated and then hydrolyzed.
11. A clear tomato concentrate in accordance with any of Claims 1 to 10 wherein the hydrolysis is carried out using heat and the natural acid present in the concentrate or serum.
12. A clear tomato concentrate in accordance with Claims 1 to 10 wherein the hydrolysis is carried out via proteolytic enzymes.

13. A clear tomato concentrate in accordance with any of Claims 1 to 12 wherein the clear tomato concentrate has very little tomato flavor compared with tomato concentrate.
14. A clear tomato concentrate in accordance with any of Claims 1 to 13 wherein the clear tomato concentrate is in the form of a powder.
15. A clear tomato concentrate in accordance with any of Claims 1 to 14 wherein the clear tomato concentrate is sprayed dried on a suitable carrier.
16. A clear tomato concentrate in accordance with Claims 14 or 15 wherein the carrier is selected from the group consisting of maltodextrins, starch, starch derivatives sugars, corn syrup solids, gums, salts and mixtures thereof.
17. A method of enhancing the flavor of foods comprising adding a clear tomato concentrate to the food in sufficient quantity to enhance the flavor of the food.
18. A method of enhancing the flavor of foods comprising adding a clear tomato concentrate in combination with another suitable flavor enhancer or mixtures thereof in sufficient quantity to enhance the flavor of the food.
19. A method of enhancing the flavor of foods in accordance with Claim 18 wherein the additional flavor enhancer is selected from monosodium glutamate (MSG), hydrolyzed vegetable proteins, disodium salts of the 5'-nucleotides inosine monophosphate (IMP), guanosine monophosphate (GMP) and adenosine monophosphate (AMP) and autolysed yeasts.
20. A method in accordance with Claim 17 wherein the taste enhancer contains 0.5% to 20% free amino acids.
21. A method in accordance with Claim 20 wherein the taste enhancer contains 4% to 15% free amino acids.
22. A method in accordance with Claim 20 wherein the taste enhancer contains 8% to 10% free amino acids.

23. A method in accordance with any of Claims 17 to 22 wherein the clear tomato concentrate is hydrolyzed
24. A method in accordance with Claim 23 wherein the serum is hydrolyzed and then concentrated.
25. A method in accordance with Claim 23 wherein the serum is concentrated and then hydrolyzed.
26. A method in accordance with any of Claims 17 to 25 wherein the hydrolysis is carried out using the natural acid present in the concentrate serum and heat
27. A method in accordance with any of Claims 17 to 25 wherein the hydrolysis is carried out via protolytic enzymes
28. A method in accordance with any of Claims 17 to 25 wherein the flavor enhancer has very little tomato flavor compared with tomato concentrate.
29. A method in accordance with any of Claims 17 to 28 wherein the clear tomato concentrate is in the form of a powder.
30. A method in accordance with any of Claims 17 to 29 wherein the clear tomato concentrate is spray dried on a suitable carrier.
31. A method in accordance with any of Claims 17 to 29 wherein the carrier is selected from the group consisting of maltodextrins, starch, starch derivatives, sugar, corn syrup solids, gums, salts and mixtures thereof.

ABSTRACT

The present invention relates to a taste enhancer comprising clear tomato concentrate. The present invention also relates to a method of enhancing the flavor of foods comprising adding a clear tomato concentrate to the food in an amount sufficient to enhance the flavor.

1. A taste enhancer comprising clear tomato concentrate.

2. A method of enhancing the flavor of foods comprising adding a clear tomato concentrate to the food in an amount sufficient to enhance the flavor.

Page 1 of 2 Pages

☒ Original ☐ Substitute ☐ Supplemental

Any Docket: GEIFMAN=1

Combined Declaration for Patent Application and Power of Attorney

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; and that I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

A CLEAR TOMATO CONCENTRATE AS A TASTE ENHANCER

the specification of which (check one)

- ☐ is attached hereto;
☐ was filed in the United States under 35 U.S.C. §111 on _____, as
 U.S. Appl. No. _____; or
☒ was/will be filed in the U.S. under 35 U.S.C. §371 by entry into the U.S. national stage of an international (PCT) application, PCT/IL 99/00273; filed May 24, 1999, entry requested on November 27, 2000; national stage application received U.S. Appl. No. 09/701,237; §371/§102(e) date _____ if known)

and was amended on November 27, 2000

(if applicable).

(include dates of amendments under PCT Art. 19 and 34 if PCT)

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above; and I acknowledge the duty to disclose to the Patent and Trademark Office (PTO) all information known by me to be material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. §§ 119 (a)-(d) and 365 (b) of any prior foreign application(s) for patent or inventor's certificate, or §365(a) of any prior PCT application(s) designating a country other than the U.S., listed below with the "Yes" box checked, and have also identified below, by checking the "No" box, any foreign application for patent or inventor's certificate or PCT international application having a filing date before that of the application on which priority is claimed:

<u>124660</u>	<u>Israel</u>	<u>27 May 1998</u>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
(Number)	(Country)	(Day Month Year Filed)		
<u> </u>	<u> </u>	<u> </u>	<input type="checkbox"/> YES	<input type="checkbox"/> NO
(Number)	(Country)	(Day Month Year Filed)		

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional applications listed below:

<u> </u>	<u> </u>
(Application No.)	(Day Month Year Filed)
<u> </u>	<u> </u>
(Application No.)	(Day Month Year Filed)

I hereby claim the benefit under 35 U.S.C. §120 of any prior U.S. non-provisional application(s) or under §365(c) of any prior PCT international application(s) designating the U.S., listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in such U.S. or PCT international application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose to the PTO all information which is material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u> </u>	<u> </u>	<u> </u>
(Application No.)	(Day Month Year Filed)	(Status: patented, pending, abandoned)
<u> </u>	<u> </u>	<u> </u>
(Application No.)	(Day Month Year Filed)	(Status: patented, pending, abandoned)

As a named inventor, I hereby appoint the following registered practitioners to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

All of the practitioners associated with Customer Number 001444

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The undersigned hereby authorizes the U.S. Attorneys or Agents appointed herein to accept and follow instructions from Makhteshim Agan _____ as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. Attorneys or Agents and the undersigned. In the event of a change of the persons from whom instructions may be taken, the U.S. Attorneys or Agents appointed herein will be so notified by the undersigned.

30 JAN. 2001 16:33 BROWDY MAKHTESHIM AGAN INTEL PROP DEPT

T-748 NO.843 P.3

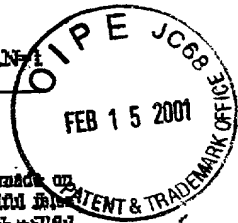
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Atty. Docket: GEIFMAN

Title: A CLEAR TOMATO CONCENTRATE AS A TASTE ENHANCERU.S. Application filed _____ Serial No. 09/701,237

PCT Application filed _____ Serial No. _____

I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



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RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
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RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SEVENTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		

ALL INVENTORS MUST REVIEW APPLICATION AND DECLARATION BEFORE SIGNING. ALL ALTERATIONS MUST BE INITIALED AND DATED BY ALL INVENTORS PRIOR TO EXECUTION. NO ALTERATIONS CAN BE MADE AFTER THE DECLARATION IS SIGNED. FULL PAGES OF THIS APPLICATION MUST BE SIGNED BY ALL INVENTORS.